

## ABSTRACT OF THE DISCLOSURE

A method and apparatus for simulating a circuit is described. In one embodiment, the method comprises representing a plurality of identical components in a reduced form as a circuit having a single instance of the identical component with encoding for each input of the single instance to represent corresponding inputs to all of the plurality of identical components and decoding for each output port of the single instance to create output ports for the outputs associated with all of the plurality of identical components and symbolically simulating the reduced form of the circuit with simulation results being the same as results of symbolically simulating the plurality of identical components.